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REMARKS

Claims 1-23 and 26-34 are pending in the application. Claims 10, 17 and 18 have been amended and new claims 27-32 have been added.

The amendment does not involve new matter. Page 11 was amended to include a description of the tensile strength of one particularly preferred thermoplastic phase change material, Konduit OTF-212-11. This added information is not new matter as it is inherent in the original disclosure. In support thereof, attached as Appendix A is a copy of a Technical Information sheet from LNP Engineering Plastics Inc., dated December 7, 2000, for the Konduit OTF-212-11 material. LNP is the supplier of the Konduit thermoplastic. This Technical Information sheet shows that the Konduit material described in the original specification has had a tensile strength, as measured by ASTM method D638, of 7,600 psi since December 7, 2000, which is before the filing date of the present application. It is further submitted that one of ordinary skill in the art at the time the application was filed could have analyzed Konduit OTF-212-11 and found that it had a tensile strength, as measured by ASTM method D638, of 7,600 psi. Hence this further description of the product does not include new matter.

Claims 10 and 17 were amended to include limitations in the specification. Page 7 of the outstanding Office Action implies that these limitations are supported. Part of claim 18 was moved to claim 17. Claim 27 is based on claim 10 and includes a tensile strength requirement supported by the amendment to page 11of the specification. Claims 28-32 are based on claims 5 and 7-8.

Claims 1-2, 10-11, 13-23, and 26 were rejected in the outstanding Office Action under 35 U.S.C. § 103(a) as unpatentable over U. S. Patent No. 6,081,059 (Hsu) in view of U. S. Patent No. 5,774,974 (Dunfield et al). This rejection is overcome in view of the foregoing amendment. Claims 10 and 17 are directed to a method of making a stator assembly and to a method of making a motor that includes providing a linear core preform. The preform has two end surfaces. A toroidal core is formed by bringing the end surfaces of the core preform together. The toroidal core is then substantially encapsulated to form a

stator assembly. Claim 10 requires that the monolithic body of phase change material is the sole structure functioning to secure the core preform in the shape of the toroidal core. Claim 17 requires that the mold cavity hold the core preform in the toroidal shape and bring the two end surfaces into contact with each other, and that the monolithic body of phase change material structurally functions to secure the core preform in the toroidal shape after the stator assembly is released from the mold. Applicants respectfully assert that the process recited by claims 10 and 17 is not suggested or disclosed by the cited references, taken alone or in combination.

Hsu differs from the claimed invention by teaching the fabrication of a stator by substantially mechanical means. Hsu uses root portions (112) to engage recesses (102) in the annular core (100). (*See* Hsu, Figs. 6-8, col. 2, ll. 56-66, col. 3, ll. 1-8). Hsu further teaches securing core (100) on stem (21) of the stator holder (2) by a retaining disk (15) and bolts (16). In addition to teaching the formation of a stator assembly through mechanical engagement of a rolled laminate, Hsu also teaches the formation of hinge portions (114) in the laminate to link fin members (11) of corresponding fin arrays (110A) together. (*See* Hsu, Figs. 3 and 6, col. 3, ll. 33-43). Creasing the laminate enables the fin array assembly (110A) to be bent into a circular geometry. Accordingly, Hsu does not suggest or disclose a process of forming a toroidal core by bringing end surfaces together and encapsulating the toroidal core to hold the core preform in a toroidal shape as recited in Applicants' pending claims.

Applicants respectfully assert that the addition of Dunfield et al. does not compensate for the deficiency of Hsu. Applicants respectfully assert that the adhesive material (78) described by Dunfield et al. cannot perform the structural function of an encapsulant as recited in Applicants' pending claims. Further, Dunfield et al. does not suggest or disclose bringing ends of a core preform together and encapsulating the ends to form the toroidal core.

In view of the intricate mechanical engagement to form the core (100) as taught by Hsu, Applicants respectfully assert that one skilled in the art would not be motivated to selectively apply the structurally inadequate adhesive disclosed

in Dunfield et al. to somehow secure the ends of the Hsu laminate together. Applicants assert that obviousness cannot be established absent some motivation to combine the teaching of the references and that motivation must come from the references themselves, and not from Applicants' disclosure. The stator assembly disclosed by Hsu is an intricately engineered mechanical assembly and does not invite additional adhesive compounds to secure the components in place.

Claims 1-9 and 11-16 depend from claim 10 and recite further limitations to the process of claim 10. These claims are allowable in view of the remarks pertaining to claim 10.

Claims 18-19, 26 and 31-32 depend from claim 17 and add further limitations to claim 17. These claims are allowable in view of the foregoing remarks pertaining to claim 17.

Claim 3 has been rejected over Hsu in view of Dunfield et al. and further in view of U. S. Patent No. 5,554,902 (Kessens et al). This rejection is respectfully traversed in view of the foregoing amendment and remarks. Claim 3 depends from claim 10 and recites materials of construction and material attributes for the stator core preform. The foregoing remarks pertaining to Hsu and Dunfield et al. are incorporated by reference herein. While Kessens et al. discloses a metal stator core 15, Kessens et al. does not suggest or disclose a process that includes forming a toroidal core by bringing end surfaces together and encapsulating the toroidal core. Accordingly, claim 3 is allowable over the combination of cited references.

Claim 4 has been rejected over Hsu in view of Dunfield et al., Kessens et al., and U. S. Patent No. 5,459,190 (Nakamura et al). This rejection is respectfully traversed in view of the foregoing amendment and remarks. Claim 4 depends from claim 3 and recites that the phase change material has a coefficient of linear thermal expansion that is similar to the coefficient of thermal expansion of the metal laminations. The remarks pertaining to Hsu, Dunfield et al., and Kessens et al. set forth above are incorporated by reference herein. While Nakamura et al. disclosed various thermotropic LCP resin compositions,

there is no suggestion within Nakamura et al. that a toroidal core be formed by bringing first and second end surfaces into contact with each other and encapsulating the toroidal core. Applicants further assert that the filled resins lack the requisite strength to function as the claimed encapsulant. For example, Nakamura et al. disclose a stator enclosed by frame (11) (Fig. 1) and frame side plates (14a) and (14b) and a can (5) (Fig. 2). There is no suggestion that the filled resin is structurally sufficient to form the core assembly without mechanical assistance. Accordingly, claim 4 distinguishes over the cited combination of references.

Claims 5-8 have been rejected over Hsu in view of Dunfield et al. and further in view of Nakamura et al. This rejection is respectfully traversed in view of the foregoing amendment and remarks. Claims 5-8 each depend from claim 10 and recite specific physical properties of the claimed phase change material. The foregoing remarks pertaining to Hsu, Dunfield et al., and Nakamura et al. are incorporated by reference herein. Accordingly, claims 5-8 distinguish over the cited combination of references.

Claim 9 has been rejected over Hsu, Dunfield et al. and U. S. Patent No. 5,204,044 (Yoneshige). This rejection is respectfully traversed in view of the foregoing amendment and remarks. Claim 9 depends from claim 10 and recites that the phase change adhesive comprise polyphenyl sulfide. The foregoing remarks pertaining to Hsu and Dunfield et al. are incorporated by reference herein. While Yoneshige discloses the encapsulation of windings, there is no suggestion within Yoneshige for forming a toroidal core by bringing ends together and encapsulating the toroidal core. Accordingly, claim 9 distinguishes over the cited combination of references.

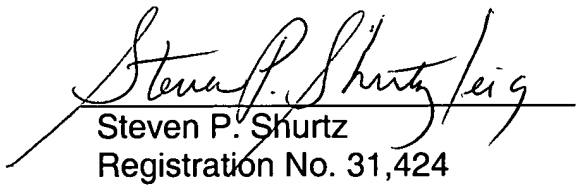
Claim 12 has been rejected over Hsu in view of Dunfield et al. and further in view of U.S. Patent No. 4,116,033 (Iwaki et al). This rejection is respectfully traversed in view of the foregoing amendment and remarks. Claim 12 depends from claim 11 and recites that rolling of the core preform is carried out by a roll forming machine. Applicants' foregoing remarks pertaining to Hsu and Dunfield et al. are incorporated by reference herein. While Iwaki et al. discloses the

forming of a wound core, there is no suggestion to form a toroidal core by bringing the ends together and encapsulating the toroidal core. Accordingly, claim 12 distinguishes over the cited combination of references.

New claims 27-29 are also patentable over the cited references. Like claim 10, claim 27 is directed to a method of making a stator assembly that includes providing a linear core preform. The preform has two end surfaces. A toroidal core is formed by bringing the end surfaces of the core preform together. The toroidal core is then substantially encapsulated to form a stator assembly. Claim 27 further specifies that the monolithic body of phase change material has a tensile of at least about 7,600 psi when tested under ASTM test method D638 and holds the core preform in a toroidal shape. Clearly Hsu does not teach this feature, but rather uses mechanical means to hold the various pieces in place. Thus there would be no reason to use a high strength material to substantially encapsulate the stator and hold the pieces in a toroidal shape. Thus claim 27, and claims 28-29 dependant thereon, are patentable over Hsu.

Applicants have made a novel and nonobvious contribution to the art of stator assembly and motor fabrication. Their pending claims distinguish over the cited references and are in condition for allowance. Accordingly, such allowance is now earnestly requested.

Respectfully submitted,



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APPENDIX A

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TECHNICAL INFORMATION

December 7, 2000

THERMALLY CONDUCTIVE POLYPHENYLENE SULFIDE

KONDUIT* OTF SERIES

PROVISIONAL
PRODUCT PROFILE

PROPERTY	ASTM METHOD	UNITS	KONDUIT* OTF-212-11
PHYSICAL			
SPECIFIC GRAVITY	D 792	N/A	2.230
SHRINKAGE - FLOW DIRECTION	D 955	% @ 0.125"	.20 to .30
MELT POINT (RESIN)	D 3418	F	527.0
WATER ABSORPTION	D 570	%	.04
MECHANICAL			
TENSILE STRENGTH	D638	PSI	7,600
TENSILE ELONGATION	D638	%	.5
FLEXURAL STRENGTH	D 790	PSI	11,600
FLEXURAL MODULUS	D 790	PSI	2,150,000
IZOD IMPACT CUT NOTCH (1/8")	D 256	FT-LB/IN	.30 to .60
THERMAL			
H.D.T.U.L.(DEG F; @ 264 PSI)	D 648	F	500
COEFF. LIN. THERM. EXPAN.	D 696	IN/IN/F 10E-5	1.1000
THERMAL CONDUCTIVITY	ASTM F 433	W/M-K	1.0
ELECTRICAL			
DIELECTRIC STRENGTH	ASTM D 149	VOLT/MIL	299
DIELECTRIC CONSTANT	ASTM D-150	60 HZ	4.99
ARC RESISTANCE	ASTM D 495	SEC	207.0
SURF RESIS (10E) DR. T ON CHIP	D 257	10E OHMS/SQ	14.0 to 16.0
DISSIPATION FACTOR	D 150	60 HZ	.0092

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